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The Johns Hopkins Magazine

a young minister talks about his profession... PAGE 2

The Johns Hopkins Magazine

◄ A university is enriched when its talented people can get together for their own enjoyment and to provide enjoyment to others. A case in point: the Johns Hopkins Orchestra, which is directed by Elliott W. Galkin. Photograph by William C. Hamilton

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In this photo essay, a Hopkins alumnus writes with unusual frankness of some of the problems that confront a young minister.

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More than sneezes and wheezes, they are frequently major illnesses, but scientists know little about how they work or can be cured.

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An assistant professor of education and of psychology is devising a unique psychological test to learn more about human behavior.

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The Johns Hopkins Press has produced an eighteen-inch plastic model of the human skeleton to be used as a teaching aid.

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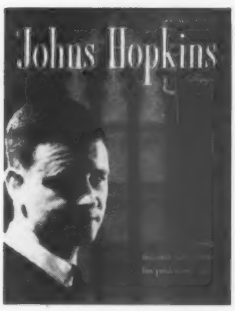

The Cover:

Traditionally, society expects its spiritual leaders to be model human beings—untroubled, confident, and sagacious. Young ministers like Robert Larimer, B.A. '56, are, however, still growing, still reconciling theory with practice. Photograph by Robert Phillips

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Photographs by Robert Phillips

A MAN OF GOD

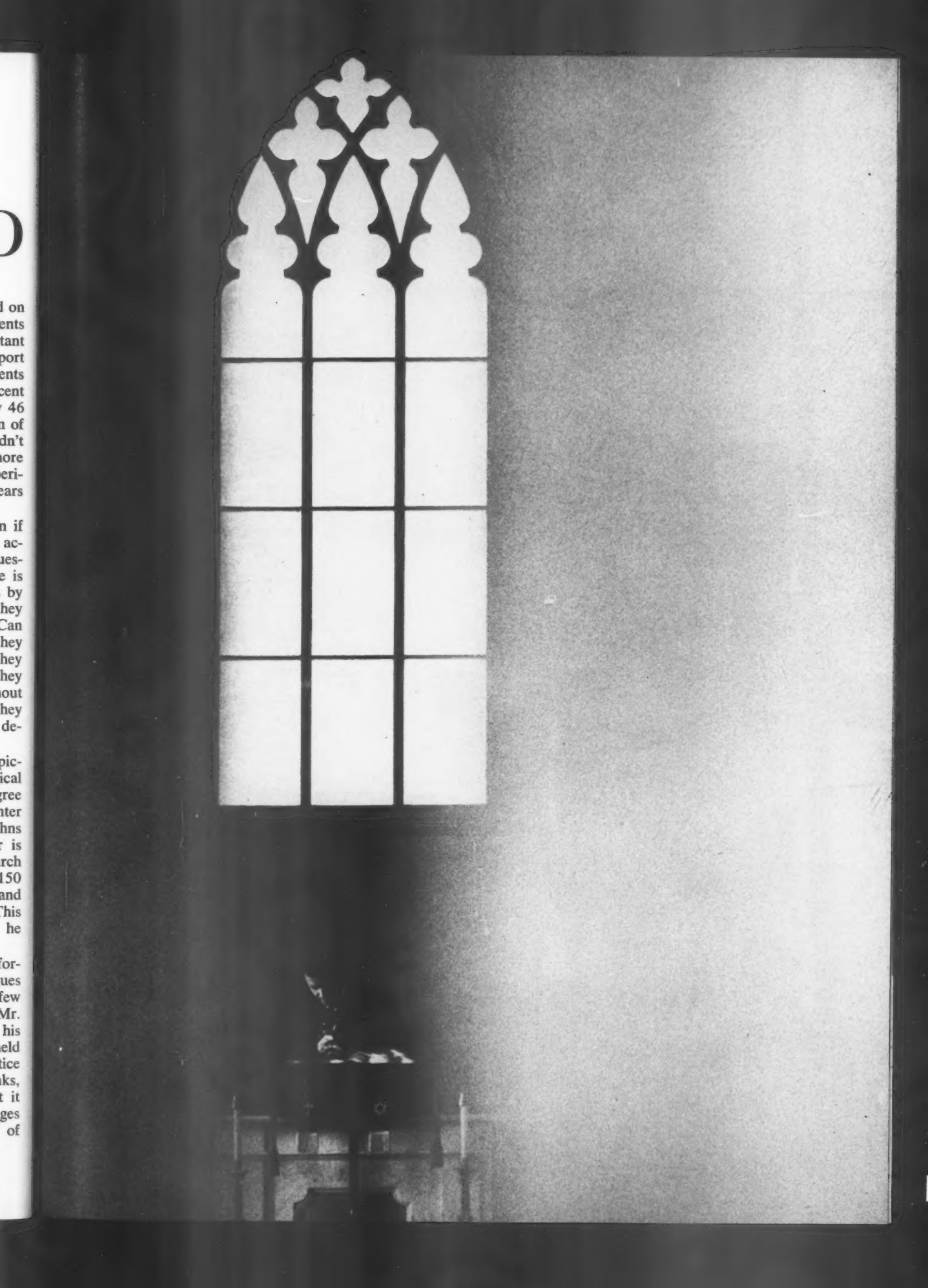
Spiritual leadership carries awesome responsibility and prompts a man to ponder his God, his people, and himself

Recently, a national magazine reported on a survey of the beliefs of theological students in eight of the nation's leading Protestant seminaries. Among other things, the report revealed that only 44 per cent of the students believe in the virgin birth; only 29 per cent believe there is a Heaven and Hell; only 46 per cent believe in the physical ascension of Christ after Calvary. What the report didn't and couldn't reveal is perhaps even more important: the feelings, attitudes, and experiences of young ministers in their first years of service.

There would be more cause for alarm if students did *not* challenge traditionally accepted truths, if they accepted without question everything presented to them. More is to be learned about our future ministers by observing them in early practice. Can they mature without betraying their ideals? Can they find time for essential study while they minister to their congregations? Can they reconcile theory with practice? Can they fight the battle for social progress without dissipating their theological efforts? Can they adjust to the compromises that reality demands of Christianity and themselves?

The Reverend Mr. Robert Larimer, pictured on these pages, left Union Theological Seminary with his bachelor of divinity degree in 1959. He had made his decision to enter the ministry while an undergraduate at Johns Hopkins (A.B. '56). Now Mr. Larimer is pastor of the Ashland Presbyterian Church in Cockeysville, Maryland. He has 150 people of all ages in his congregation, and they look to him for spiritual guidance. This is an awesome responsibility which he eagerly accepts.

Although he considers himself more fortunate than many of his young colleagues (because he has a "good church" with few of the usual administrative troubles), Mr. Larimer is aware of the problems of his profession. The attitudes and beliefs he held in seminary have been tempered by practice rather than changed. It is possible, he thinks, to mature without sacrificing ideals, but it is also a struggle. On the following pages he expresses with unusual candor some of his thoughts about his profession.



MY GOD

There are many more questions raised in a theological seminary than there are answers found. And though this is characteristic of all good education, it doesn't make the task any easier later.

If I knew more answers, perhaps I would not be so perplexed by what seem to be compromises of Christianity. We turn to the Bible, in which the word of God is eloquently written, and find a Christianity that does not exist today, and which, when we are really honest, we probably do not want to exist. We Christians justify war with a reference to an angry Christ in the midst of moneychangers or to the slaughters of the Old Testament; we have nationalized Christianity to the extent that opponents in war each claim to have God on their side. Christian leaders argue over the right and wrong of Hiroshima as though they are debating the number of angels who can dance on the head of a pin. Recently, ordained ministers proclaimed the right of a man to kill his neighbors if they tried to force their way into his bomb shelter.

What this adds up to, I think, is that the Church takes on the protective coloration (political and social) of the times and locale in which it exists.

The sanctified mission of the Christian Church is to seek and worship God and to spread His word. A minister has an obligation to scholarship, to study the Scriptures and the history and philosophy of mankind. The spiritual questions which plague mankind are not easily answered, and, Mr. Peale notwithstanding, the power of positive thinking simply will not solve all the problems. It seems at times that artists and writers devote more energy more sincerely to expressing the spiritual plight of man than do the ministers ordained to this task.

Much of the time we might spend in study, we spend in social activities. I am concerned over the tendency of the church to become a social center, "another place to have lunch," as

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Many who feel their prayers aren't going anywhere don't know how to pray.

someone has said. Brotherhood and fellowship are inseparable elements of Christianity if they are kept in the context of Christianity.

It also seems at times as though we ministers are embarrassed by our true mission and feel compelled to adjust to the times, to apologize for the rigid demands of Christianity. There are those of us who seek scientific explanations for the miracles, lest we be considered superstitious. But if there is no supernatural, then what is God? There are those of us who seek euphemisms for "sin," lest we be considered fanatics. But we do not alter the fact by changing the name.

I am astonished when I think that the greatest and most exciting message in history is so often given second billing to television. And when I ask myself why this is, I have no real answer. Perhaps as ministers, we do not tell our story with the conviction and excitement it deserves. Perhaps the competition from Madison Avenue is too much for us. Perhaps the Christian Church is losing touch with the people and their vital causes, problems, and needs. Or maybe the answer is revealed in the story of Noah.

Of one thing I am certain: God is seeking us, and we must seek Him. I do not think this is an easy thing. Nor do I think our seeking can be relegated to an hour on Sunday morning. We must find enlightenment in the teachings of Christ; we must ponder the power and wisdom of the cross. And this requires more of us than a shrugging amen and the noble intention of living a good life.

Somehow we have come to think of God as a white-bearded patriarch enthroned among the Heavenly clouds. Indeed, this is what we teach our children. "Where is God?" we might ask a child. And he will raise his eyes to the sky and reply: "Up there." But He is not *up there*. He is here. He is Emmanuel; He is with us. And when we understand that, we will have made considerable progress in our search.

Hymns aren't just to let us stretch our legs; they're a way of worshipping God.

MY PEOPLE

Sometimes I'm overwhelmed by the immensity of my task. I look at the people in my church each Sunday morning and realize that their spiritual salvation is my responsibility. And I'm not even sure I can explain salvation in a way that they will understand it, in a way that will make them want it.

For most people, Christianity is a Sunday morning sojourn to the church; it's a moral code fashioned roughly from the golden rule. Few people worry about theological questions—about salvation and redemption, the virgin birth, faith and works—which dominate the thinking of the teachers and students in seminary. They either accept these things as absolute truths above debate, or they ignore them as the small print in their after-life insurance policy.

The minister is generally thought of as the person who works on Sunday. In fact, most of his work is done on the other six days. If an hour or two of preaching on Sunday accomplishes much, there is little way of knowing it. But a Wednesday evening prayer meeting, or a Tuesday talk with a troubled teen-ager often produces tangible evidence that what I'm doing counts for something.

I think a lot about the young people. They're hard to reach; they live in a world, which once left can never really be re-entered, even (or especially) with the word of God as a special passport. I wish there were a way to make the youth understand the importance of seeking God—not just accepting Him or worshipping Him, but of *seeking* Him. I struggle to make this point without sounding "square," without sounding like a wild-eyed evangelist demanding a written commitment. But they are a moving target which I rarely hit, so I take some consolation in the fact that life has a way of slowing the target eventually.

Often I realize that there are many people living within the sound of our church bells who are morally and spiritually crippled. I think about them, and I know, whether they do or not, that they are living on the periphery of life as it is meant to be. And I wish there were a way to make them see that.

A brush with death has changed this girl. She has seen the face of God and may have a new understanding,

A MAN OF GOD

Continued

On Sunday morning I see only the faces of my people. To know and understand them, I must see them where their lives are all around them.

At first I was nervous about counseling people my own age or older. Then I learned that sympathy and understanding make age unimportant.

These are my people—young and old. We are partners in grief, joy, hope, and despair. I feel a great obligation to all of them, but the children most of all, for they accept so readily and absolutely what we tell them.

MY SELF

As a boy, I often heard ministers include themselves among the sinners and the tempted. I used to smile to myself, confident that this was just a way to reach people, to establish rapport, to avoid sounding "holier than thou." Now I know better. Now I realize that being "The Reverend Mr." doesn't guarantee me spiritual security, or a clear view of eternal truths. I'm not above anger, ambition, prejudice, pride, and all the other emotional short-circuits that motivate human beings. And when I pray with my people, I am praying for myself as well, and for my own salvation.

I am rather introspective; I try to keep an eye on *me*. I know how easy it is (for one whose duty is to raise the moral standard, to lash out at sin, and to lead the way to righteousness) to become ultra-conservative and something of a pious "wet blanket." The tendency is helped along by the embarrassment and/or disapproval that many people express when they see a minister romping on a ball field or a tennis court, or dancing or driving a sports car. Perhaps it is a part of this confusion over materialism; ministers are expected to wear hair shirts and be slightly emaciated (which probably results from our frequent condemnation of worldly goods). In any case, I'm aware that I must guard against slipping from the *knowledge* that temptation is the mask of sin into the *assumption* that pleasure is the mask of temptation.

A minister must keep growing, too. Somehow I must find time to study the scriptures, to read, to think about the questions which have occupied man for centuries.

I've got to keep in mind, also, that I'm a messenger. That the counsel I give, the sermons I preach, and any wisdom I may dispense, come *through* me, not *from* me. I've got to stay close to the source if I'm ever to get close to the people I serve.

Somehow I must penetrate the barriers that all of us build around ourselves.

I am continuously involved in so many lives that I must often pause to evaluate my own, to remember who I am.

I am the first minister in my family, and I often wonder how my children will adjust to being "preacher's kids."

ALLERGIES *Th*

THE CHANCES are better than one in five that some time this year you have shared the agonies of the creatures pictured on these pages. Incessant sneezes, constricted breathing, searing pain in the eyes, or itching, inflamed skin—these are the symptoms of the diseases we all know as allergies.

What is less well known is that allergies encompass much more than hay fever, asthma, and hives—that the same kind of reactions which produce these common allergies also figure in a host of other diseases: tuberculosis, serum sickness, rheumatic fever, certain kinds of anemia, and several diseases of the eye, the brain, and so forth. It is an allergic reaction which causes a person to reject transplanted skin tissue from anywhere except his own body or his identical twin.

Indeed, just about any substance which is foreign to the body can cause an allergic response. The list of these substances includes inhaled dusts and pollens, ingested foods and drugs, bacteria and viruses, injected drugs, even bee stings—plus a variety of things externally contacted, such as cosmetics, dyes, and metal watchbands. The body may even come to regard some of its own tissue as foreign substances, particularly if the tissues are ordinarily isolated from the bloodstream (as in the eye) but somehow, due to injury or disease, come in contact with the blood. When this happens, the resulting disease is called an auto-immunity.

Ironically perhaps, most allergic diseases apparently are triggered by the very same mechanism by which the body combats disease. When an unwelcome foreign substance, called an antigen, enters the body, the cells go to work to produce special proteins, called antibodies, to combat the damaging effects of the antigen. How antibodies are made is not fully understood. Often the protective antibodies continue to be generated after the disease has subsided, ready for the next attack of that particular antigen. This is nature's way of building immunity. But immunity can also be built through vaccination, which is simply a mild dose of the antigen injected into the body to produce a "ready reserve" of antibodies.

The ordinary disease-inciting antigens, such as pathogenic bacteria, are inherently toxic and produce similar effects in all human beings exposed to them. But the antigens which produce allergic reactions are not necessarily toxic, nor do they affect all people. Even among those who are affected by a particular antigen of this sort, the symptoms can be quite varied. To further confound the picture, allergic sensitivity may be long-lasting or short-lived, may disappear all of a sudden or spread to include more foreign substances, or may in time produce new symptoms.

To distinguish them from the inherently toxic antigens, these foreign substances are usually referred to as allergens.

If you are lucky, the ragweed pollen or other allergen will pass through your body without rendering harm. If you are an individual with an allergy proneness, the first contact with the allergen will affect body cells in a peculiar way. Instead of producing normal antibodies, the cells become altered in some mysterious fashion, so that the next time they are attacked by the same allergen they set off a chain of events which produce the symptoms of an allergic

ILLUSTRATIONS BY ROBERT OSBORN
COURTESY OF SCHERING CORPORATION

Their symptoms are a curse to many, an enigma to scientists

disease. These sensitized cells, as they are called, may reside in practically any (or every) organ or tissue in the body.

In the case of hay fever, hives, and bronchial asthma, the response to the allergen is immediate. The reaction usually takes place in certain organs, called "shock" organs, where the abnormal antibodies produced during the first exposure are apparently in high concentration. The tissues most generally involved are the smooth muscles of the bronchial tube or the digestive system, the small blood vessels near the surface of the skin, and the mucus-secreting glands.

Though the antibodies may be concentrated in "shock" organs, there are usually a number of them circulating through the blood stream. This makes it possible for a physician to detect specific allergy with a simple skin test. He scratches a number of allergens into the skin of the forearm or the back, and within fifteen minutes he is able to observe a red inflammation around one of the scratches; this is the guilty allergen.

Sometimes the allergic symptoms do not occur for hours or even days. The allergic reaction to penicillin is a case in point; so are other drug allergies, serum sicknesses, and certain kinds of food allergy. The symptoms to these diseases may resemble the symptoms of immediate-type reactions, but the mechanisms of these diseases are different in important ways. Skin tests seldom work in these cases.

Thirdly, there are delayed responses which differ from both of the above types. Unlike these responses, which subside without leaving any residual changes, delayed responses may, over a period of time, injure or kill cells—sometimes, as in the case of tuberculin allergy, producing lesions which heal with the formation of scar tissue. Into this delayed-response category go many diseases not commonly thought of as allergic, and those diseases in which allergy is only a component: tuberculosis, rheumatic fever, rheumatoid arthritis, certain diseases of the eye, the brain, etc.

THE EXACT pathogenesis of allergy is not known, chiefly because the antigen-antibody reaction itself is a complicated and baffling phenomenon. More accurately, one must speak in plurals, for there are different kinds of antigens, different kinds of antibodies—and correspondingly, different kinds of reactions to antigens.

In a test tube, for example, many such reactions will produce a precipitate, visible to the naked eye. Normal antibodies produced in response to a pollen allergen react with the allergen in this way. But in allergic individuals, the abnormal antibodies usually will not precipitate when combined with the allergen. These non-precipitating antibodies, known as reagins, are common to sufferers of immediate-type allergies. Serum containing reagin has the ability to confer sensitivity to an allergen on a normal individual, though only for a short time. One small dose of the allergen into his body is usually enough to neutralize the action of the reagin.

There is fairly conclusive evidence that heredity is an important factor in determining whether a person responds to an allergen with reagin. What is apparently inherited is an allergic "predisposition," not a specific allergic disease. *Continued on next page*

Allergies

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But heredity evidently plays a part only in immediate-type allergies—hay fever, asthma, hives, and some food allergies.

Heredity aside questions arise as to why some people respond with reagin, others not; where reagin originates; how it is formed; what part it plays in producing allergic symptoms.

But even the answers to these questions will not dispel the mysteries of allergic diseases, for some allergy-induced antibodies behave not at all like reagin. In serum sickness and other diseases with slowly arising symptoms, the antibodies produced are normal antibodies. These are circulating antibodies, like reagin, and serum containing them will confer sensitivity to a normal individual.

No sensitizing antibodies at all have ever been detected in the serum of patients with delayed response diseases, such as tuberculosis and rheumatic fever. The serum, in other words, will not confer sensitivity. But sensitivity is conferred by the lymphocytes—white corpuscles which are manufactured in the lymph nodes, the spleen, and bone marrow. Little is known about how these cells become hypersensitive or cause tissue damage in reaction to an antigen.

One thing known with some certainty about a number of immediate-type allergic diseases is that the antigen-antibody reaction liberates a substance in the body called histamine. Histamine is a fascinating and powerful substance. It has the ability to dilate capillaries and increase their permeability, to constrict smooth muscle, and to stimulate the secretions of a number of glands. An injection of histamine will dilate the vessels of the brain and increase the pressure of the cerebrospinal fluid, and thus cause severe headaches.

There is no doubt that the actions of histamine closely resemble the symptoms of hay fever, asthma, and hives. Significantly, these symptoms usually are relieved, at least temporarily, by concentrations of antihistamine drugs. (These drugs, however, have no effect on any other kind of allergies.) Furthermore, laboratory experiments have demonstrated that histamine is released when blood cells or tissues are exposed to ragweed or a similar allergen.

Histamine is present in the tissue of most mammals, in varying amounts from one tissue to another. There is enough in the body of a man to seriously endanger his life—if the histamine were released all at once. But histamine is "captured" within cells, and is released only upon stimulation by the antigen-antibody reaction or by a chemical or physical agent. A number of histamine liberators have been found; significantly, when these are injected into a man, they produce clinical manifestations of an allergy.

Histamine has been a suspected culprit since 1910, but in recent years research has revealed other agents in the body which may be responsible for some allergic symptoms associated with hay fever, asthma, and hives. This may help to explain why antihistamines do not always relieve the symptoms. Where these agents come from is not known with certainty, but the strongest evidence points to the *mast cells* and the *basophil leucocytes*, both of which have high concentrations of histamine plus serotonin and heparin, two other potent agents. (Basophil leucocytes are circulating cells; mast cells stay put in tissues. Because they are so similar in structure, there is reason to believe that one is simply an altered form of the other.) The histamine and other agents are contained in the cells as granules. In the allergic reaction, the theory goes, the walls of these cells are broken and the granules are released.

What triggers this release? It has been demonstrated that certain kinds of enzymes, called proteolytic (meaning "capable of breaking complex proteins into simpler, soluble products") appear in the bloodstream following the antigen-antibody reaction. Proteolytic enzymes are effective histamine liberators.

Conceivably the increase in proteolytic activity is merely a by-product of the allergic reaction and not a cause of it. But according to one theory, the enzymes exist on the surface of the basophil or the mast cell together with a substance which is an enzyme inhibitor. According to the theory, the antigen attacks the inhibitor, freeing the enzyme to do its destructive work.

But again, the triggering mechanism may lie elsewhere. Some investigators hold that complement, the substance in the blood which helps the antibodies to destroy bacteria and other foreign cells, is responsible for histamine release. Complement is an exceedingly complex set of substances about which little is known. Recently, however, Abraham G. Osler, associate professor of medicine and of microbiology at Johns Hopkins, succeeded in removing one of the components of complement, known simply as C_3, from the serum of experimental animals, and found that they were no longer capable of an immediate-type reaction to an allergen.

THE QUESTIONS remain. What happens in the antigen-antibody reaction to cause allergic symptoms? What triggers this peculiar response? And lastly, what "error" in the body makes some people susceptible to this response while others are not?

The problems for immunologists and others interested in allergies extend beyond these questions. There is, for example, the field of auto-immunity, in which an individual becomes allergic to his own tissues. Many such diseases have been artificially induced in laboratory animals, and the similarity of these experiments to some recognized diseases in humans has led to the consideration—and in some cases, confirmation—that the human diseases have similar causes.

An animal injected with brain tissue, for example, may develop hypersensitivity not only to the foreign brain cells but to the animal's own brain cells as well. The result is an allergic brain disease. Rabies vaccine for humans is derived from the brain tissue of rabbits, and patients have been known to develop a temporary brain disease of the very same sort as the laboratory animal. Attempts are now being made to develop a safer vaccine from duck eggs.

In a true auto-immunity, the antigenic material actually comes from within the body, usually from cells ordinarily isolated from the blood stream. Thyroglobulin, for example, resides in the thyroid gland, evidently surrounded by follicles, and out of

contact with the blood. In some people, the thyroglobulin gets into the circulatory system, the body becomes hypersensitive to the globulin, and the result is a degeneration of the thyroid tissues called Hashimoto's disease. Antigens may also come from the tissues of the brain or the spinal cord, or from the uveal tract of the eye possibly to cause uveitis.

In some auto-immune diseases, antibodies actually attack the cells in the bloodstream. Hemolytic anemia destroys red cells; there is another disease, considered to be auto-immune, in which white cells are attacked. Most such diseases are incurable.

A problem related to auto-immunity is tissue transplantation. It is well known that skin and organs cannot be transplanted to an individual unless they come from an identical twin. The mechanism by which the body rejects tissues from all others except an identical twin (who is immunologically identical, too) is known to be allergic, and similar to other delayed-response reactions. An attempted second graft, for example, will be rejected much faster, because the body was sensitized by the first attempt.

Transplants will, however, work from an embryo to an embryo or from an adult animal to an embryo, indicating that immunological intolerance is something acquired in the process of growth.

IN THE absence of precise knowledge about the mechanism of allergic diseases, present forms of treatment can only "cure the patient but not the disease."

The most obvious line of defense is to remove from the environment of the patient the offending substance. Patients with identifiable food allergies must adhere to rigid diets; other kinds of sufferers may have to stop smoking, or avoid horses, or substitute foam rubber pillows for feather ones, or change from a metal watchband to a leather one.

For sufferers of hay fever and other pollen allergies, the solution is not so simple. The offending plants are in the local environment to stay; the only alternative is to move the patient to an area free of these species. In many

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WILLIAM C. HAMILTON

Philip S. Norman (*right*) examines a volunteer taking part in the Hopkins study.

New hope for hay fever sufferers?

ONE OF THE annoyances to sufferers of hay fever is the necessity of making frequent trips to the doctor to receive injections. Why not a single dose of the antigen to protect them all through the season? The problem, of course, is that a heavy dose of ragweed extract or other antigen may produce a severe shock reaction which threatens the life of the patient. To build up a ready reserve of protective antibodies without causing the patient a lot of discomfort, the injected antigen must attack the sensitized cells a little at a time.

In recent years, scientists have been experimenting with materials which, when added to the ragweed extract or other antigens to be injected, slow down the release of the antigen within the body. These materials, called "adjuvants," thus permit large doses of the antigen to be administered at one time, usually without harm to the patient.

Adjuvants not only provide a delayed release mechanism for the antigen, they also seem to alter the action of the antigen, in a way not understood, so that a greater number of the right kind of protective antibodies are produced. They may, therefore, represent a major breakthrough in the treatment of allergies.

To find out just how effective an adjuvant is, some members of the medicine and pediatric faculties at Johns Hopkins have been conducting the first thorough clinical test of an antigen suspended in an adjuvant. In mid-August, at the onset of the hay fever season, eighty volunteers—all of them hay fever sufferers who had not had recent treatment—were given an injection. Half the members of the group were given a heavy dose of ragweed extract suspended in an adjuvant. The others, who comprised the "control group," were given an injection of adjuvant alone, which by itself has no therapeutic value. (Nevertheless, says Burton C. D'Lugoff, who is directing the test, psychological factors will cause about thirty per cent of the control group to report that the injection has helped them.)

Once a week, on through the hay fever season, the volunteers have been returning to the allergy clinic at Johns Hopkins for interviews and physical examinations. Forty of the patients are adults; forty of them are children. Philip S. Norman and Marie B. Rhyne, the investigators in charge of adults and children respectively, have not been told which participants have been given the potent injection and which have not.

When the study is completed this year, a great deal more will be known about the promise of adjuvants as therapeutic helpmates. To the exasperated hay fever sufferer, there is plenty of reason to hope the promise is a bright one.

Allergies

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cases, of course, this is an unrealistic solution.

The second line of defense, particularly for hay fever and asthma sufferers, is to attempt to increase the patient's tolerance by administering gradually stronger doses of the offending allergens. Apparently this procedure helps to build up an army of ordinary protective antibodies.

Some allergists prefer to begin injections three or four months prior to the pollen season, to be sharply reduced at the onset of the season. Others give injections solely during the season of suffering. And advocates of "perennial therapy" begin the injections after the season and continue them, at gradually increased intervals, on through the year to the onset of the next pollen season.

Hyposensitization, as the process is called, effectively relieves symptoms in most cases. Many are clinically "cured" after two or three seasons, and doses of the allergen may be discontinued. Inevitably, however, some of these patients will return several years later with renewed symptoms. Never, in fact, are the sensitized antibodies eliminated. In the successfully treated patient, the immunity and the sensitivity coexist, and the sensitizing antibodies are still present in the patient's serum and cells. Positive reactions to the offending allergens are still obtainable on skin testing.

Despite its usual effectiveness, hyposensitizing therapy is a nuisance to its beneficiaries, who must make frequent trips to the doctor—as often as twice a week—for injections. A research team at the Johns Hopkins School of Medicine is now making a clinical study of a special single-dose treatment. (Their project is more fully described on page 13.)

There are a number of pharmacological agents used to combat the symptoms of allergic diseases, including the antihistamines, already mentioned, and a group of synthesized hormones called adrenocorticosteroids. The latter, which include cortisone, hydrocortisone, derivatives of these two, and ACTH, have been used with success in treating many kinds of allergic diseases. Customarily they are used only to supplement specific therapy for the allergic disease, since they are potent drugs and can have harmful side effects.

The adrenocorticosteroids are similar to the hormones secreted by the adrenal cortex of the spine. Tissue cells need these hormones for their normal functioning, but more important, they need them in greater quantities when the body is undergoing stress. Whatever the agent of stress—a bacterial infection, a physical strain, or even fright—the secretion from the adrenal cortex rises sharply. Under stress, for example, the secretion of cortisone may increase four-fold.

Just what part these hormones play in the antigen-antibody reaction is not well understood, nor is it known why these steroids (their shortened name) affect the allergic reaction. Their effect is suppressive, not curative, and they seem to act directly on the sensitized cells. Evidently they do not alter the hypersensitive state of the patient nor the antigens in his body. They apparently have no effect on the antigen-antibody union, on the production or liberation of antibodies from lymphoid tissue, or on the action of histamine. What they do seem to affect is the local tissue responses, evidently rendering the cells less subject to injury.

IT HAS BECOME fashionable, particularly among cocktail party experts, to dismiss all allergies as psychological in origin, and to regard treatment of allergies as the proper province of the psychoanalyst.

Indeed, there is some professional support for this opinion, and studies have been made to correlate allergic diseases with psychological disturbances from a Freudian point of view. Two doctors who treated twenty-seven asthma patients with psychoanalytic methods found that all the patients suffered "a basic fear of separation from the mother or the mother figure."

On the other hand, some allergists are totally unsympathetic to the concept that psychological factors influence allergic disease. The safest position seems to be "middle ground," though even this broad expanse is inhabited by conflicting opinions. Psychic factors, according to many allergists, cannot *produce* an allergic state, although they may, in some cases, affect the physiological state of the individual in a manner that makes the allergic symptoms more severe. A chronic worrier, for example, may aggravate a skin disease because his worrying state causes hypersecretion of skin oils, leaving the pores more susceptible to an antigenic attack. But without the antigenic agent, say these allergists, there can be no allergy.

Others, more conservative, regard emotional disturbances as the result of an allergic reaction or its discomforting symptoms, rather than a contributing cause.

It is, of course, generally acknowledged that the psychological state of an individual is influenced by physiological factors. There are drugs, for example, which produce bizarre or tranquil emotional states in patients, including derivatives of substances found in the human body. Out of the whole complex of things which happen in an allergic reaction, it is likely that some factors, such as hormonal secretions, may influence the psychological state of the patient.

But most physicians regard the converse as also true. Psychological factors can influence the physiological state of the body and may, therefore, help to induce allergic symptoms. A frightening experience makes the hair stand up, an embarrassing one makes the face flush; under emotional strain, the body exudes more sweat and a skin eruption may occur. Still, the question remains: can an allergic symptom occur without an antigenic agent to incite it?

An affirmative answer cannot be ruled out. Emotional stress may produce a kind of physiological hyperactivity which, in turn, triggers the same allergy-inducing mechanism which an antigen normally does. A team of researchers at Cornell University Medical College has been studying correlations between emotional states and the physiological state of the nose. Working with emotionally disturbed patients whose allergic symptoms apparently appeared only under emotional stress, the Cornell physicians conducted psychoanalytic interviews

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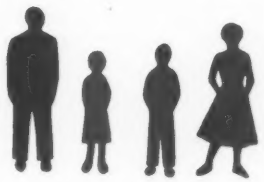
By JAMES C. BUTLER

What do people think about  (people)?

A PSYCHOLOGIST USES A SIMPLE BUT EFFECTIVE TEST TO LEARN MORE ABOUT HUMANS AND "TOGETHERNESS"

INSCRUTABLE as he may think he is, the average human being is constantly and unknowingly revealing facets of his personality. His manner of speaking, his body movements, his eyes, his vocabulary, often say more than his actual conversation. Thus experienced interviewers, as skilled in listening and observing as they are in interrogating, seldom need the aid of a lie detector to evaluate the responses of people being questioned.

In their quest to learn more about human behavior patterns, beliefs, and attitudes, psychologists have devised hundreds of psychological tests. Varying widely in content and method, such tests are painstakingly designed to reveal aspects of a person that the person himself is unaware of—and to do so with scientific validity.

Involved in creating such a test is James L. Kuethe, assistant professor of psychology and of education. Having begun his research project this past year, Dr. Kuethe is likely to be spending a few more years in his laboratory perfecting it. And though he is reluctant to speculate about its final outcome, he won't deny that it could become an extremely important tool in understanding the workings of the human mind.

James Kuethe, A.B. '55, M.A. '55, PH.D. '58 (psychology), is a tall, slender, twenty-eight-year-old scholar who frequently drives his caramel-colored convertible from Baltimore to New York, waving at everyone he passes standing by the road.

He does so with scientific intent, and, with scientific precision, nearly everyone waves back.

This is only one of the phenomena of human behavior which set Dr. Kuethe to work on his research project dealing with "social schemata," or as he simplifies it: "What people think about people." Dr. Kuethe explains that a schema is a plan, a thought pattern, or a way of thinking about something. He became interested in devising a technique which could be used to reveal a person's way of thinking, which would explain, for example, why people wave back.

Dr. Kuethe gives another example: Draw a circle in the middle of a sheet of paper and tell another person that the circle represents a lead weight. Then ask the person to draw a circle on another sheet of paper and he (like nearly everyone else) will consistently draw the circle lower on the paper. On the other hand, if you tell the other person that the circle is a balloon, he will draw his circle higher. Why?

Such reactions are principles of what Dr. Kuethe calls "common-sense or naïve psychology," because the results often elicit such comments as "of course" or "obviously."

"There is a tendency in psychology to ignore the obvious principles of behavior," Dr. Kuethe claims, "perhaps because of the desire to avoid things that appear trite, or because their study does not seem scientific." In doing so, psychologists run the risk of overlooking fundamental concepts, a failing not so prevalent in the "more confident sciences."

What do people think about people?

Continued from page 15

So, at the risk of appearing obvious to his colleagues, Dr. Kuethe set out to discover some fundamental concepts. "I wanted to work first with those social schemata that determine whether or not objects are thought of as belonging together and the degrees of *belongingness*—that is, hierarchies of belonging when more than two objects are involved."

To conduct such investigations, Dr. Kuethe devised an ideally simple method. He stretched a piece of blue felt (six feet high and seven feet wide) on the wall of an experimental room in Ames Hall. Wanting young males for his preliminary investigation, he chose undergraduates of Johns Hopkins. On each trial, the subjects were given two or more objects made of yellow felt (seven to ten inches high) and then told to place the yellow objects on the blue field in any manner.

The technique is ideal in that it requires no verbal skills on the part of the subjects. In fact, the test has been administered to subjects with IQ's of 40 (naturally in a different group from the Hopkins undergraduates). Dr. Kuethe says, "I'm sure I could instruct somebody whose language I didn't speak to take the test."

DR. KUETHE and his graduate research assistants administered nine separate tests in the major portion of the experiment. The results are fascinating.

In the first test, the subjects were given two felt objects: one an outline silhouette of a woman's figure; the other of a child. They were told to place the figures on the blue felt in any position they wished. After each subject had placed the figures, the researcher measured the distance between the figures and noted their orientation. Next, the subjects repeated the procedure with figures of a man and child. Results: 94 of the 100 subjects placed the figures in a vertical (standing) position. The woman and child figures were placed closer together than the man and child by 68 subjects. Only 18 placed the child closer to the man.

Next, the subjects were given figures of a man, woman, and child. Forty-four placed them in that order: man, woman, child. And 40 placed them man, child, woman. But only 8 respondents placed the man *between* the woman and child. The overwhelming majority kept the child next to the woman figure, thus lending support to the familiar verbal association of mother and child. "All of the 92 subjects who gave an organized response," Dr. Kuethe points out, "placed the figures in a horizontal row with the figures parallel and vertical, as though standing on an imaginary base in the middle of the field. This is a basic schema in organizing human objects."

Another test involved man, woman, and a figure of a dog. Fifty-six of the subjects put the dog next to the man; 34 put the dog next to the woman; and only ten subjects put the dog *between* the man and woman.

"This set of figures was included to see if there is a 'man and his dog' schema," Dr. Kuethe explains. "That the dog was seldom placed between the people may reflect a schema whereby non-human objects tend not to be allowed to separate human figures."

Next, a cat was substituted for the dog, and, as might be expected, the cat was more often placed next to the woman. Seldom was the cat placed between the human figures.

When given figures of a man, woman, and two rectangles of the same size, the great majority of subjects placed the man and woman together with the rectangles flanking them, or above, or below, or in other non-intervening positions.

"The tendency to place human figures together," says Dr. Kuethe, "is predictable and quite strong." This appears to be a fundamental concept in the "common-sense psychology" theory.

Further proof of this concept came during another experiment. Dr. Kuethe placed two rectangles on the blue felt field two and a half feet apart and allowed a subject to view them for five seconds. Then the

professor removed the rectangles (felt leaves no traces) and gave them to the subject with instructions to replace them in exactly the same position on the felt board.

Thirty times he did this with 30 different subjects, starting each time where the previous person had placed the rectangles. When the experiment ended, the rectangles were still two and a half feet apart.

But when figures of a man and a woman were substituted for the rectangles and the experiment repeated, the male and females figures were continually moved closer and closer together. They ended up only three inches apart. Unconsciously, the persons being tested erred in their actions and sought to group the human figures. The rectangles had proved to be "psychologically neutral," while the human symbols had brought out the subjects' natural predisposition to group human figures. In this case, then, since the common response was an error in following instructions or judging distance, it would be abnormal to be accurate.

Apparently, people in a given culture tend to think alike because of their common experiences. But what of those people who perhaps make idiosyncratic responses?

For example, in the experiment with the man, woman, and two rectangles, one subject used the rectangles one on top of the other to construct a barrier between the man and woman. "This behavior is significant because it contrasts with the strong tendency of most people to put the man and woman figures together," says Dr. Kuethe. "A response of this type might reflect some type of disturbance."

In another experiment with a special urban adult group, two female figures and two male figures were given to the subjects. Most grouped the figures in various "natural" combinations. But three subjects placed the two female figures close together at one side of the blue field and the two male figures close together at the opposite end of the field. All three respondents are homosexuals.

"The clinical significance of such idiosyncratic responses should not be overlooked," Dr. Kuethe points out. Indeed, it is in the area of diagnostic or predictive work that a test such as this promises most.

Dr. Kuethe is eager to begin working with special population groups with more specifically designed tests. It would be possible with these groups to test for such things as authoritarianism, creativity, and prejudice. It would also be possible to explore new social schemata, to study the difference in reaction between the sexes; it would be possible to conduct periodic tests of children to study their development.

Dr. Kuethe feels that he is limited in what he can study only by the content of the things he can put up on his blue felt board. He and his graduate assistants have already begun to branch into some related areas of interest. An analysis has been made of a number of works of art which contain groups like those in the tests. It appears that "creative" artists are really not particularly creative in the placement of their figures because they place them as almost everyone else does: human figures together without inanimate objects intervening, mother next to child, dog next to man, cat next to woman, etc.

Children, too, have been studied by Dr. Kuethe. In a sample group, he told each child to draw two circles on a sheet of paper. Then on an identical sheet of paper he said, "Now draw two round faces." The majority of children placed the faces closer together than the circles—again following the pattern set by the adults' grouping of human figures.

Other tests have shown that figures of men walking towards each other are placed closer together than men walking apart. Dr. Kuethe is curious to know how subjects would place two male figures shooting guns. If placed far apart, would this indicate fear? Would placing them close together indicate courage?

Dr. Kuethe's research has endless and intriguing possibilities. He becomes frankly excited when talking about what might result from further experimentation. But he is also quick to point out that the surface has been barely scratched, that there are many unknowns between the casual wave of a passer-by and the understanding of his personality.

The author is assistant director of public relations at Johns Hopkins (Homewood campus).

A Johns Hopkins Gazette

AN UNOFFICIAL COMPENDIUM OF FACULTY AND ALUMNI APPOINTMENTS, HONORS AND ACCOMPLISHMENTS

THE FACULTY

PRESIDENT MILTON S. EISENHOWER has been elected to the board of trustees of the Maryland Academy of Sciences.

AMONG THE MEMBERS OF THE BOARDS OF TRUSTEES, EUGENE R. BLACK, University trustee, has been elected president of the American Shakespeare Festival Theater and Academy in Stratford by the board of trustees. He has been a member of the board of trustees of the Academy since 1955 and has served as its international chairman.

LEONARD DALSEMER, B.A. '28, University trustee, has retired as president of Lord Baltimore Press. He has been elected chairman of the board.

BEVERLY H. MERCER, Hospital trustee, was named chairman of the finance subcommittee for the Twentieth International Navigation Congress held in Baltimore in September.

HOOPER S. MILES, Hospital trustee, has been appointed chairman of a new metropolitan area study commission by Governor Tawes of Maryland.

IN THE FACULTY OF PHILOSOPHY, the following have been promoted to the rank of full professor, BERNARD M. DWORK, in mathematics; FRANCIS E. ROURKE and ROBERT W. TUCKER, in political science.

THOMAS I. COOK, professor of political science, has been named chairman of the department.

HERMAN M. KALCKAR, professor of biology, has resigned to become professor of biological chemistry in the Faculty of Medicine at Harvard University.

YEHUDA KOTOWITZ has been appointed assistant professor of political economy.

MALCOLM MOOS will continue as professor of political science on a part-time basis. He has joined the public affairs and relations staff of the Rockefeller Brothers, Inc., in New York.

JASPER B. SHANNON, professor of political science at the University of Kentucky, is visiting professor of political science for the academic year 1961-62.

HARRY WOOLF has been appointed the first Willis K. Shepard Professor of the History of Science. He will be on leave for the academic year 1961-62 to the Royal Society of London. Dr. Woolf is editor of *Isis*, leading journal in the history of science field.

MICHAEL B. YARMOLINSKY, PH.D. '54 (biology), has been promoted to assistant professor of biology.

IN THE SCHOOL OF ENGINEERING SCIENCE, ROBERT H. ROY, B.E. '29, dean, has been elected vice-president of the American Society for Engineering Education. He has also been elected a director of vanZelm Associates, a development engineering firm.

JEROME GAVIS has been promoted to the rank of associate professor of chemical engineering.

GEORGE NEMHAUSER has been appointed assistant professor of industrial engineering.

AT THE SCHOOL OF MEDICINE, the following have been promoted to the rank of associate professor, THOMAS R. HENDRIX, M.D. '51, in medicine; H. HANFORD HOPKINS, A.B. '23, M.D. '27, in dermatology; RICHARD J. JOHNS, M.D. '48, in medicine; CHARLES N. LUTTRELL, JR., in neurological medicine; MARVIN M. NACHLAS, A.B. '40, M.D. '43, in surgery; GEORGE T. NAGER, in laryngology and otology; WILLIAM L. NYHAN, in pediatrics; RICHARD H. SHEPARD, M.D. '46, in medicine; MACKENZIE WALSER, in pharmacology and experimental therapeutics; and WILLIAM H. ZINKHAM, B.A. '44, M.D. '47, in pediatrics.

FERNANDO BLOEDORN, assistant professor of radiology, has been promoted to professor of radiology at the University of Maryland School of Medicine.

ELI BREGER, fellow '58-'59 (psychiatry), '60 (pediatrics), house staff '57-'58 (pediatrics), '58-'61 (psychiatry), has received the Dr. Wendell Muncie Award for his research paper entitled "The Use of Meprobamate in the Management of Enuresis."

SEYMOUR S. KETY, professor of psychiatry and chairman of the department of psychiatry, has received the Rho Chi Citation from the Philadelphia College of Pharmacy. Dr. Kety also delivered the annual Julius W. Sturmer Memorial Lecture. He chose as his subject "The Implications of Biochemistry to Psychiatry."

W. B. KOUWENHOVEN, professor emeritus of electrical engineering, and lecturer in surgery, J. R. JUDE, and G. G. KNICKERBOCKER, instructors in surgery, were awarded the Hektoen Gold Medal at the annual meeting of the American Medical Association for the exhibit on closed chest cardiac massage and defibrillation by the Committee on Awards of the Scientific Exhibit. Dr. Jude has also received the Francis F. Schwentker Award for his research paper entitled "A New Approach to Cardiac Resuscitation."

EDWARD S. PERKINS has been appointed visiting associate professor of ophthalmology for the academic year 1961-62.

THOMAS A. STAMEY, M.D. '52, associate professor of urology, has been appointed associate professor of surgery and head of the division of urology in the department of surgery at Stanford University School of Medicine.

AT THE SCHOOL OF HYGIENE AND PUBLIC HEALTH, the following have been promoted to the rank of full professor, MANFRED MAYER, in microbiology, and RICHARD L. RILEY, in environmental medicine.

ALFRED A. BUCK, M.P.H. '59, DR.P.H. '61, has been appointed assistant professor of epidemiology.

DEAN FLETCHER DAVIES, formerly research lung cancer administrator with the American Cancer Society, has been appointed associate professor of public health (division of chronic diseases).

HENRY S. FULLER has been appointed associate professor of pathobiology.

JOHN C. GEYER has been appointed professor of sanitary engineering. He is also professor of sanitary engineering and water resources in the School of Engineering Science.

EDWARD GRZEGORZEWSKI, M.P.H. '33, visiting professor of public health administration, has returned to the department as professor after serving as director of Education and Training Services for WHO in Geneva.

CORNELIUS W. KRUSÉ, recently promoted to professor of sanitary engineering, has been given a joint appointment in the School of Engineering Science.

JOHN G. MCAFEE, associate professor of radiology, has also been appointed associate professor of radiological science.

SOLBERT PERMUTT, fellow '56-'58 (environmental medicine), has been appointed associate professor of radiological science in environmental medicine.

HARRY M. RAULET, JR., has been appointed assistant professor of public health administration. For some months he will be in Pakistan on a medical-social research project.

CHARLES E. RENN has been appointed professor of sanitary engineering. He is also professor of sanitary engineering in the School of Engineering Science.

JOSEPH SHAPIRO has been appointed assistant professor of sanitary engineering. He is also assistant professor of sanitary engineering in the School of Engineering Science.

ALAN TIMMS, fellow '61 (pathobiology), has been appointed assistant professor of pathobiology.

HENRY N. WAGNER, JR., B.A. '48, M.D. '52, has been appointed assistant professor of radiological science.

AT THE SCHOOL OF ADVANCED INTERNATIONAL STUDIES, JOHN C. DREIER, lecturer of Latin American Affairs, has been appointed visiting professor for 1961-62, and director of the Inter-American Center of SAIS.

AT THE INSTITUTE FOR COOPERATIVE RESEARCH, JOHN T. O'CONNOR, research staff assistant, has been appointed assistant professor of sanitary engineering at the University of Illinois.

THE ALUMNI

GEORGE HOYT WHIPPLE, M.D. '05, LL.D. '47, fac. '10-'14 (pathology), house staff '06-'14 (pathology), has been awarded the Gold Headed Cane of the American Association of Pathologists and Bacteriologists.

EMORY H. NILES, B.A. '13, fac. '46 (lecturer in medical jurisprudence), has been elected president of the Maryland State Bar Association. He is also Chief Judge of the Baltimore Supreme Bench.

JOHN E. UHLER, B.A. '13, M.A. '24, PH.D. '27 (English), fac. '21-'28 (English), has become professor emeritus of English at Louisiana State University.

WILLIAM L. DOLLEY, PH.D. '14 (zoology), has retired as professor of biology from Randolph-Macon College in Ashland, Virginia.

THOMAS M. RIVERS, M.D. '15, fac. '17-'18 (medicine), '19-'22 (bacteriology), house staff '15-'16 (medicine), '16-'18 (pediatrics), has received the honorary degree of doctor of science from The Rockefeller Institute.

INEZ COLDWELL, G. '17-'22 (zoology), has retired as associate professor of biology at Women's College, North Carolina.

MARTHA M. ELIOT, M.D. '18, has received the Henrietta Szold Award from Boston University at a special commemoration ceremony honoring the centennial of the birth of Miss Szold, founder of Hadassah, the women's Zionist organization of America.

HERBERT INSLEY, PH.D. '19 (geology), has been named an honorary member of the American Ceramic Society.

JOHN B. YOUMANS, M.D. '19, fac. '21-'22 (medicine), has been awarded the Decoration for Exceptional Civilian Service by the U. S. Army.

ROBERT FREDERICK LOEB, fac. '20-'21, house staff '20-'21 (medicine), has received the honorary degree of doctor of science from Columbia University. Dr. Loeb has also been elected to the Harvard University Board of Overseers.

LORNA ISABELLA (MRS. MAURICE L.) STAFFORD, M.A. '23, PH.D. '36 (Romance languages), has been appointed interim dean of faculty at Mexico City College, Mexico.

WILLIAM A. KEESE, A.B. '26, a Methodist minister in Baltimore, has been named president of the Maryland Council of Churches.

ROBERT W. THON, JR., '26-'28 (arts), G. '28-'30 (English), PH.D. '33 (political economy), has been appointed chief executive officer of the Savings Bank of Baltimore.

MERLE A. TUVE, PH.D. '26 (physics), SC.D. '50 (hon.), alumni trustee '55-'59, fac. '24-'26 (physics), has been awarded the honorary degree of doctor of laws from Carleton College.

ROSEMOND TUVE, G. '26-28 (English), has been awarded the honorary degree of doctor of letters from Carleton College.

HARRY EAGLE, M.D. '27, has been named professor and chairman of the department of cell biology of the Albert Einstein College of Medicine, Yeshiva University.

JAMES M. FAULKNER, house staff '27 (medicine), has been appointed director of the Medical Center at Boston University.

BETTYLEE HAMPIL, SC.D. '27 (hygiene), fac. '32-'35 (bacteriology), has retired as director of virology for the laboratories of Merck, Sharp and Dohme.

LEON HOWARD, PH.D. '29 (English), has received the honorary degree of doctor of humane letters from the University of Chicago.

HUGH R. LEAVELL, fac. '29-'30 (medicine), house staff '28-'30 (urology, medicine), has received the Lemuel Shattuck Award for 1961 from the Massachusetts Public Health Association. Dr. Leavell has also been elected president of the Association of Schools of Public Health, Inc.

HATTIE E. ALEXANDER, M.D. '30, has received the Oscar B. Hunter Memorial Award of the American Therapeutic Society for her contributions to therapy.

WENDELL E. DUNN, G. '31-'32 (education), has retired as principal of Forest Park High School, Baltimore, Md.

NORMAN L. TROTT, B.S. '31, G. '27-'32 (Oriental seminary), was awarded the honorary degree of doctor of laws from The American University, Washington, D. C.

LEROY E. BURNEY, M.P.H. '32, has been appointed vice-president for the health sciences at Temple University Medical Center.

WILLIAM R. KAHL, B.E. '32, has been appointed for a five-year term on the Board of Professional Engineers and Land Surveyors for the State of Maryland.

ROY J. BULLOCK, PH.D. '33 (political economy), fac. '28-'46 (marketing, political economy, business economy), has been awarded the honorary degree of doctor of laws from Doane College.

WILLIAM B. BEAN, house staff '35-'36 (medicine), has been awarded the Groedel Medal by the American College of Cardiology for his contributions to medicine and the humanities.

CHARLES BEAUMONT WICKS, PH.D. '35 (Romance languages), has been awarded a Fulbright scholarship to do research in France during the year 1961-62.

EDWARD G. WITTING, PH.D. '35 (physics), has been appointed deputy assistant secretary of the Army for research and development.

WADE H. MARSHALL, fellow '36-'38 (physiology), fac. '38-'43 (physiology), has become a foreign member of the Brazilian Academy of Science.

THEODORE LIDZ, fac. '38-'51 (psychiatry), '47-'51 (medicine), '48-'51 (preventive medicine), house staff '38-'41 (psychiatry), is the first recipient of the Frieda Fromm-Reichman award for research in schizophrenia.

JOSEPH F. A. MCMANUS, fac. '38-'40, house staff '38-'40 (pathology), has been elected vice-president of the American Society for Experimental Pathology.

ROBERT BALENTINE REED, B.A. '38 (mathematics), has been promoted to professor and head of the department of biostatistics at the Harvard University School of Public Health.

MYRON E. WEGMAN, M.P.H. '38, fac. '40-'41 (pediatrics), '39-'42, '43-'46 (public health administration), has been appointed professor of pediatrics and communicable diseases at the University of Michigan Medical School.

GEORGE R. CARPENTER, M.P.H. '39, has retired as chief of the preventive medicine division of the First Army.

W. BREATHITT GRAY, JR., B.A. '39, G. '39-'40 (geology), has been elected president of Apex Minerals Corporation, Franklin, North Carolina.

JOHN D. HAMILTON, fac. '39-'40 (pathology), has been appointed dean of the medical school at the University of Toronto.

HERBERT FRIEDMAN, PH.D. '40 (physics), has been appointed part-time professor of physics at the University of Maryland.

NATHAN JACOBSON, fac. '40-'41, '43-'47 (mathematics), has been appointed English professor of mathematics at Yale University.

COLLIN S. MACCARTY, M.D. '40, house staff '40-'41 (surgery), has been promoted to professor in the section of neurologic surgery at the Mayo Foundation.

HOWARD L. HAMILTON, PH.D. '41 (zoology), has been appointed chairman of the department of zoology and entomology at Iowa State University.

WALTER H. C. RUEGGEBERG, PH.D. '41 (chemistry), fac. '46-'47 (chemistry), has been elected a vice president of Atlas Chemical Industries, Inc., in Wilmington, Del.

DAVID GROB, M.D. '42, fac. '45-'58, house

Continued on page 20

Richly Illustrated

HENRY E. SIGERIST'S

A HISTORY OF MEDICINE

EARLY GREEK, HINDU, AND PERSIAN MEDICINE

In tracing the development of Greek and Hindu medical science through their "Golden Ages," Dr. Sigerist shows in detail the significance of their differing philosophies of knowledge: how the Greek love of logic led to specializing in physical ills, while the Hindu tendency towards mysticism developed a useful approach to mental problems. He also includes a section on Persian medicine.

24 pages of halftones; line drawings and maps.

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A Johns Hopkins Gazette

CONTINUED

staff '42-'43, '45-'46 (medicine), has been appointed director of education and research at Maimonides Hospital of Brooklyn, New York.

STANLEY J. SARNOFF, M.D. '42, fellow '42 (surgery), has received the 1961 Malcolm Rogers Memorial Award for excellence in the field of heart disease. He has also been named Halliburton Memorial Lecturer by Kings College, London, and St. Cyres Lecturer by the National Heart Hospital of the Royal Society of Medicine, London. Dr. Sarnoff has also been elected vice-president of the American College of Cardiology.

CURTIS PROUT, fac. '43-'44, house staff '43 (medicine), has been appointed associate director of the Harvard University Health Services and chief of medicine.

JOHN S. GREEN, III, M.D. '45, fac. '51-54 (radiology), house staff '45-'46 (medicine), '61 (radiology), has been elected president of the Maryland Radiological Society.

C. GORDON ZUBROD, fac. '46-'53 (medicine, pharmacology), has been appointed director of Intramural Research of the National Cancer Institute.

HOWARD H. QUINT, PH.D. '47 (history), has been named a Fulbright exchange lecturer for 1961-1962 at the Johns Hopkins University School of Advanced International Studies, Bologna, Italy.

ROBERT B. CURRY, fac. '48-'55 (APL), has been elected president of the Society for Advancement of Management.

ELLIOTT G. FALK, B.A. '48, has been appointed executive director of the state public school building authority for the Commonwealth of Pennsylvania.

MILTON J. ALLEN, PH.D. '49 (chemistry), has become director of chemical research at Electro-Optical Systems in Pasadena, Calif.

HARRY M. BRACKEN, G. '49-'51, M.A. '54 (philosophy), has been appointed associate professor of philosophy at the University of Minnesota.

ALEX M. FINKLE, house staff '49-'50 (urology), has been promoted to associate clinical professor of urology at the University of California School of Medicine.

ADAM J. RAPALSKI, M.P.H. '49, has been appointed chief of the Army Surgeon General's Preventive Medicine Division in the Directorate of Professional Service.

ROBERT W. BASS, B.A. '50, PH.D. '55 (mathematics), has been appointed chief scientist of the Aerospace division of Aeronca Manufacturing Corporation in Baltimore.

WILLIAM J. MARINER, B.E. '50, has been elected vice-president in charge of manufacturing of the Case-Hoyt Co., Rochester, N. Y.

BENJAMIN PASAMANICK, fac. '50-'55 (public health administration, psychiatry), has received the $500 Stratton Award of the American Psychopathological Association for his studies on the epidemiology of mental disorder.

MAURICE H. HALSTEAD, PH.D. '51 (geography), fac. '51-'54 (geography), '50-'51 (ICR), has been awarded the Commanding Officer and Director's Special Annual Honorary Award for Scientific Achievement by the United States Naval Electronics Laboratory.

ALAN P. THAL, house staff '51-'52 (surgery), has been appointed as first Grover C. Penberthy professor of surgery, and chairman of the department of surgery at Wayne State University Medical College.

MORRIS TEPPER, PH.D. '52 (civil engineering), has been honored by Brooklyn College for significant achievements in the field of meteorological satellites and distinguished service to the National Aeronautics and Space Administration.

JULIUS W. ALLEN, G. '53-'55 (political economy), has been appointed chief of the Economics Division, Legislative Reference Service, Library of Congress.

HILBURN WOMBLE, B.A. '54, M.A. '55, PH.D. '58 (classics), has been elected president of the North Carolina Classical Association.

PAUL HOROWICZ, PH.D. '55 (biophysics), fac. '57-'59 (biophysics), has been appointed associate professor of physiology and chief of the division of muscle physiology at Duke University Medical School.

ROBERT P. MADDEN, PH.D. '56 (physics), has been awarded the Director's Medal for Technical Achievement by the U. S. Army Engineer Research and Development Laboratories.

MARY L. RION, PH.D. '57 (English), has been appointed associate professor of English at Agnes Scott College, Georgia.

EDWARD A. SMITH, fac. '57-'59 (commercial law), has been elected president of the Bar Association of Baltimore City, Maryland.

JACOB J. ENZ, PH.D. '60 (Oriental seminary), has been appointed acting dean of Mennonite Biblical Seminary, Elkhart, Indiana.

DEATHS

GEORGE ELLAS WISEWELL, M.A. '11 (French); on March 22, 1961. He was a retired officer of the Translation Section of the Military Intelligence Service.

CLARENCE GEORGE NEUBAUER, SR., G. '12-'13 (arts); on May 6, 1961. He was a hardware store owner in Baltimore.

ARTHUR L. WALTERS, M.D. '12, house staff '12-'13 (medicine); on January 26, 1961. He was a trustee of the Pratt Clinic-New England Center Hospital in Boston.

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NEWS FROM
JOHNS HOPKINS

MR. BONES

THREE years ago, a man named Leon Schlossberg went to work in his Baltimore laboratory measuring a human skeleton, carefully recording with calipers the exact dimensions of the bones before him.

This month, an eighteen-inch-high plastic replica of that human skeleton was placed on sale by the Johns Hopkins Press, climaxing three years of painstaking work.

The replica, unlike any other, is a functional model of a human skeleton, accurate in every anatomical detail. It is the color and texture of bone and is unbreakable and flexible. The model can demonstrate every position of the human body, and, in so doing, each part has the correct physiological relationship to all other parts. Every bump, notch, and twist on the model bones is exactly as it is in real bones.

LEON SCHLOSSBERG is one of America's foremost medical artists, which itself is a fascinating and unusual field. He is a medical illustrator at the Johns Hopkins Hospital and instructor in art as applied to medicine at the School of Medicine.

Mr. Schlossberg worked for nearly two and a half years in perfecting his model skeleton. After measuring the real skeleton, he molded each bone out of modeling clay. Then he produced succeeding models out of plaster, metal, and, finally, plastic. His plastic originals served as the master copy from which the production molds were made.

Twenty-six separate pieces comprise the plastic skeleton. Each movable joint is created by tiny wires which hold the different bones together. The legs and arms, feet and hands—even the jaw—move exactly like human bones. To those who have never studied the human frame or who have never had the opportunity to see a skeleton, the new model is an instant revelation.

"Now I know why collarbones break so easily," said one previewer as he noted how the skeleton's clavicle rides rather uneasily between the shoulder and the breastbone.

The model is something of a departure from conventional book publishing—particularly for a university press. It will sell for twenty dollars, far less than medical students must pay for real skeletons. Press officials point out that the availability of the skeleton will enable every medical student to have his own. It is also designed for use in elementary school, high school, and college classes, and will be especially valuable to radiology students, lawyers, artists, and nurses.

The skeleton comes fully-assembled and is equipped with a stand and base upon which is printed several views of the skeleton complete with labels of all the bones.

Press officials feel the skeleton is as much a contribution to knowledge as a book.—LYNN POOLE

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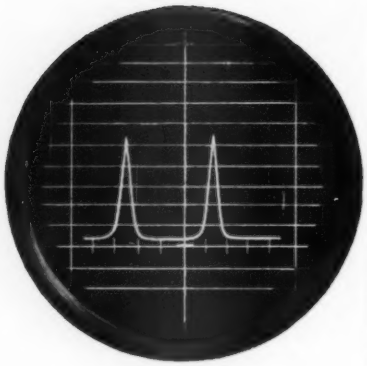

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Allergies

Continued from page 14

with the patients over a period of time. During the interviews they frequently paused to examine the nose for internal swelling, mucus secretion, obstruction, and color of the membranes. They found, in nearly every case, noticeable changes in nasal characteristics as the emotional state of the patient changed from interview to interview or from one moment to another (often under skillful "baiting" by the interviewer) in the course of a single interview.

One of their conclusions is that nasal obstruction is a protective response, not only against physically noxious agents, but against "situational threats" involving relationships with other people. The obstruction implies an attempt to shut out, rather than to deal with the situation. The phenomenon is much like a child's weeping. Tears may have been intended as a defense against noxious agents in the eye, but a baby quickly discovers that weeping is an effective method of gaining succor from a hostile environment. Weeping, in fact, involves the nose as well as the eyes, and may involve the bronchial passage. The step from weeping to allergy may, therefore, be a small one.

Many allergists are inclined to accept this evidence that some disorders are psychological in origin, though they suggest these be called "psychogenic," not allergenic. "All that wheezes and weeps," says one, "is not allergy."

W. Horsley Gantt, director of the Pavlovian Laboratory at Johns Hopkins, suggests that many of these "psychogenic" disorders may be similar to the conditional reflex produced in experimental animals.

In the classical Pavlovian experiment, a bell is sounded at the same time that a dog is fed; subsequently, the mere ringing of the bell will cause the dog to salivate. "The bell, of course, is an accident in the dog's environment," Dr. Gantt points out. "There is no connection between the bell and the production of saliva, except that it's an accidental coincidence between the times of the two actions."

Actually, the stimulus affects more than the salivary glands. Particularly as disturbances are repeated, the animal's heart rate will increase sharply, and he may develop a respiration pattern very similar to asthmatic breathing. There may be long intervals between repetitions of the stimulus without diminishing their effectiveness. One dog was brought back into the experimental room after a seven-year absence; his mere presence in the room caused his heart rate to increase markedly.

Thus it may be that an experience which merely brings about an association with an event in the past which caused allergic symptoms may cause renewed symptoms. "I see no reason whatsoever," says Dr. Gantt, "why some allergic reactions cannot come about in the same manner as all of the strange symptoms in these dogs with experimental neuroses."

WHATEVER their causes, allergic diseases are widespread. By conservative estimate, allergies—in the narrower sense: hay fever, asthma, and the like—affect 20 per cent of the population of the United States. Only about one-third of these seek medical treatment. (As a step towards fuller knowledge of just how prevalent these diseases are, Marie B. Rhyne, pediatric allergist at Johns Hopkins, is undertaking a study of Maryland schoolchildren to determine the number of cases among them of bronchial asthma, both treated and untreated.)

In its wider meaning, which includes all diseases in which there is a serious allergic component, allergy is far more prevalent and probably ranks as a major killer.

Much research is being done in the field of allergic diseases. There is hardly a department in the Johns Hopkins School of Hygiene and Public Health or the School of Medicine which is not conducting research bearing on allergies.

In the department of medicine, for example, investigators are studying closely a number of allergic diseases: the allergic reaction to penicillin and to anthrax vaccine, and hypersensitivity to staphylococcal infection. James C. Allen, fellow in medicine, is searching for the allergic component in a disease called glomerulonephritis—the most common kidney disease among children and young adults. Philip S. Norman, assistant professor of medicine, is studying the chemistry of ragweed allergens and the chemistry of proteolytic enzymes and their inhibi-

tors. And there are many other projects.

On the Homewood campus, biologists and chemists are also conducting research in fields related to allergies. The most pertinent work is being done by Alsolph H. Corwin, professor of chemistry, and his associates. Dr. Corwin is chiefly interested in food allergies, a field that has been greatly neglected by researchers partly because experimental animals cannot be sensitized to food allergens at will. (Pollen sensitivity is easily transferred from one animal to another by injections of antibodies, but food allergen sensitivity is inherited by the animals and can only be detected by a "smorgasbord" trial and error method.) Dr. Corwin's aim is to find better ways of analyzing the serum of sensitive animals so that the allergic mechanism can be more fully understood.

"Until we know more about how allergies work," says Dr. Corwin, "we can expect no miracle cures or systematic eradication of allergic diseases." No crash program will work. As the number and variety of research projects at Johns Hopkins indicate so well, there are still many facets to be studied, still much basic knowledge to be gained before allergic diseases are conquered.

ANNUAL

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LEE HOWARD, M.D. '13; on December 14, 1960. He was past-president of the Medical Association of Georgia, and past-president and secretary-treasurer of the Georgia Medical Society.

WALTER F. GEISSEL, A.B. '14, G. '14-'15 (political economy); on December 10, 1960. Before his retirement he was with the B. F. Goodrich Company for forty years.

CECIL H. BAGLEY, A.B. '17, M.D. '21, fac. '22-'25 (surgery), '25-'27, '32-'59 (ophthalmology), '27-'32 (clinical ophthalmology); on April 15, 1961. Dr. Bagley was a noted eye specialist and was instructor emeritus of ophthalmology at the Johns Hopkins School of Medicine.

LAWRENCE STOKES FULLER, M.D. '18; on February 23, 1961. He was a practicing physician in Columbia, S. C.

WILLIAM VERNON ROSSITER, G. '19-'20 (engineering); on May 9, 1961. He was an engineer with the Gas and Electric Company of Baltimore.

PHILIP CHARLES CRAFT, A.B. '20; on June 16, 1961. He was living in Hawthorne, California.

CHARLES LESTER HARTSOCK, M.D. '20; on March 2, 1961. He was head of the department of internal medicine at the Cleveland Clinic.

ADALBERT ZELWIS, G. '20-'24 (Sanskrit), '25-'27 (hygiene); on May 29, 1961. He was a dentist in Baltimore.

WILLIAM PAUL SADLER, M.D. '21; on January 16, 1961. He was living in New York City, N. Y.

JAMES EDWIN SHARP, PH.D. '21 (chemistry); on January 31, 1960. He was a research chemist at Owen Illinois Glass Company.

EDWARD F. BUCHNER, JR., B.A. '23, M.D. '27; on May 3, 1961. Dr. Buchner was a prominent obstetrician and son of the founder of McCoy College.

CARL A. MURCHISON, PH.D. '23 (psychology); on May 20, 1961. Dr. Murchison was a noted psychologist and the author of books on psychology.

E. LEE KINSEY, B.S. '24 (chemistry), M.A. '26, PH.D. '27 (physics), fac. '26-'27 (physics); on May 27, 1961. He was professor of physics at the University of California, and former chairman of the department of physics at the University of California.

MELVIN J. COOK, G. '25-'26 (mathematics), on February 23, 1960. Before his retirement he was head of the mathematics department at Williston Academy, Easthampton, Mass .

MILLARD E. WINCHESTER, hygiene '25-'26; on December 24, 1960. He was a health officer of Glynn County, Georgia.

ALMA THOMAS (MRS. DANIEL M.) DUVALL, B.S. '26; on June 15, 1961. She was living in Baltimore.

CHARLES E. COCKEY, JR., engineering '27-'30; on March 19, 1961. He was a public relations executive in Baltimore.

PHILIP LOVING ELLIOTT, G. '27-'28 (English); on April 14, 1961. He was president of Gardner-Webb College, N. C.

MAURICE ROME BROWN, A.B. '28; on May 8, 1961. He was a lieutenant colonel in the United States Army.

E. ELLSWORTH HALL, B.S. '29; on December 20, 1960. He was a teacher at Baltimore City College.

ELLIOTT H. PENNELL, G. '30-'31 (hygiene); on February 6, 1961. He was former chief of the statistical staff of the Division of Dental Public Health and Resources of the United States Public Health Service.

DENNIS DANIEL DONAHUE, SC.D. '31 (hygiene); on March 21, 1961. He was living in Montreal, Canada.

EDNA CORRELL (MRS. WALLACE) BELL, B.S. '33, on May 8, 1961. She was a retired public school teacher in Baltimore.

WILLIAM FRANCIS LAMB, M.P.H. '33; on January 25, 1961. He was living in Phoenix, Ariz.

ADELAIDE MCFADYEN (MRS. VICTOR) JOHNSON, fac. '34-'37 (psychiatry), house staff '34-'37 (psychiatry); on November 20, 1960. She was living in Rochester, Minn.

HENRY CASTLE ALBERT MEAD, fac. '37-'39, house staff '36-'39 (psychiatry); on June 3, 1961. He was a retired psychiatrist.

GLADYS B. KRAUSE, B.S. '39; on April 15, 1961. She was living in Baltimore.

DAVID M. GOULD, fac. '48-'56 (radiology), '49-'56 (epidemiology); on April 2, 1961. He was chairman of the department of radiology at the University of Colorado School of Medicine.

FRANK J. NEUBERG, PH.D. '50 (Oriental seminary); on May 9, 1961. He was professor of Old Testament literature and Hebrew at North Park Theological Seminary.

JAY SELDIN, B.A. '58; on November 23, 1960. He was a graduate student at Columbia University.

ANSWER TO PUZZLE ON COVER IV OF LAST MONTH'S ISSUE

Divide the coins at random into three groups of three. Balance any two groups against each other; if one contains the underweight coin the group is spotted; if the two groups balance, the counterfeit is in the third group. From the spotted group take any two coins and balance them. If one is light, it is the counterfeit; if they balance, the counterfeit is the third of the group.

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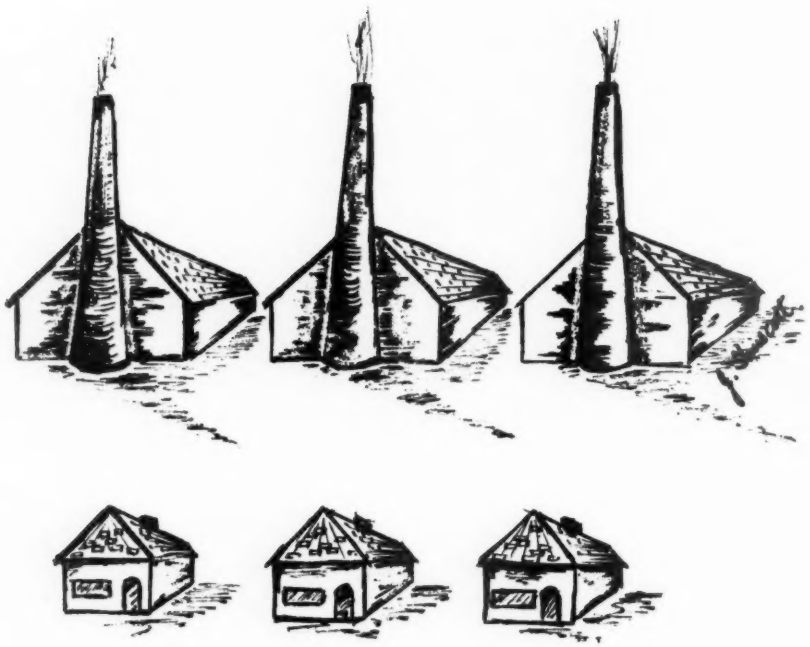

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